**Lesson 9.1**

**Problem: 13  Set: Exercises  Page: 199**

Look in your textbook for this problem statement.

Hint

Write the expression for the perimeter of a rectangle.

Step 1

The perimeter of a rectangle equals 2( *l + w*).

Hint

Substitute.

Step 2

Substitute.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_13_565/image027.gif

Hint

Find the LCD.

Step 3

The LCM of the denominators is http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_13_565/image028.gif.

Hint

Multiply by the missing factors.

Step 4

Multiply by the missing factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_13_565/image029.gif

Hint

Add the numerators.

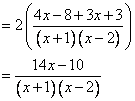
Step 5

Add the numerators.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_13_565/image030.gif

Step 6

Simplify.



**Problem: 41  Set: Exercises  Page: 200**

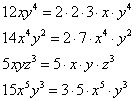
Look in your textbook for this problem statement.

Hint

Factor each monomial.

Step 1

Factor each monomial.



Hint

The LCM is the product of every factor the greatest number of times it occurs.

Step 2

Take every factor the greatest number of times it occurs. Then take the product to obtain the LCM.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_41_566/image111.gif

Hint

Simplify.

Step 3

Simplify.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_41_566/image112.gif

**Problem: 43  Set: Exercises  Page: 200**

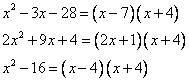
Look in your textbook for this problem statement.

Hint

Factor each polynomial.

Step 1

Factor each polynomial.



Hint

The LCM is the product of every factor the greatest number of times it occurs.

Step 2

Take every factor the greatest number of times it occurs. Then take the product to obtain the LCM.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_43_566/image114.gif

Rearrange factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_43_566/image115.gif

**Problem: 45  Set: Exercises  Page: 200**

Look in your textbook for this problem statement.

Hint

Rewrite the 6.

Step 1

Rewrite the 6 as a fraction.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_45_566/image117.gif

Hint

Find the LCD.

Step 2

First find the LCD.

The LCM of the denominators is 60*a*2.

Hint

Rewrite each fraction with the LCD.

Step 3

Rewrite each fraction with the LCD.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_45_566/image118.gif

Hint

Multiply fractions.

Step 4

Multiply fractions.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_45_566/image119.gif

Hint

Add the numerators.

Step 5

Add the numerators.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_45_566/image120.gif

Rearrange terms.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_45_566/image121.gif

**Problem: 47 Set: Exercises  Page: 200**

Look in your textbook for this problem statement.

Hint

Factor the denominators.

Step 1

Factor the denominators.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_47_566/image123.gif

Hint

Find the LCD.

Step 2

The LCM of the denominators is http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_47_566/image124.gif.

Hint

Multiply by the missing factors.

Step 3

Multiply by the missing factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_47_566/image125.gif

Hint

Add the numerators.

Step 4

Add the numerators.

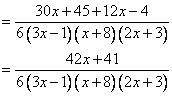
http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_47_566/image126.gif

Hint

Simplify.

Step 5

Simplify.



**Problem: 49 Set: Exercises  Page: 200**

Look in your textbook for this problem statement.

Hint

Factor the denominators.

Step 1

Factor the denominators.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_49_566/image129.gif

Hint

Find the LCD.

Step 2

The LCM of the denominators is http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_49_566/image130.gif.

Hint

Multiply by the missing factors.

Step 3

Multiply by the missing factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_49_566/image131.gif

Hint

Add and subtract the numerators.

Step 4

Add and subtract the numerators.

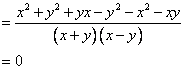
http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_49_566/image132.gif

Hint

Simplify.

Step 5

Simplify.



**Problem: 51 Set: Exercises  Page: 200**

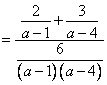
Look in your textbook for this problem statement.

Hint

Factor.

Step 1

Factor the quadratic.



Hint

Find the LCDs of the numerator and the denominator.

Step 2

Find the LCDs of the numerator and the denominator.

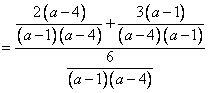
The LCD of the numerator is http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image136.gifand the LCD of the denominator is also http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image136.gif.

Hint

Rewrite each fraction with the LCD.

Step 3

Rewrite each fraction with the LCD.

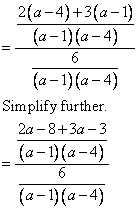


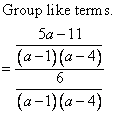
Hint

Simplify the numerator.

Step 4

Simplify the numerator.





Hint

Write as a division expression.

Step 5

Write as a division expression.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image140.gif

Hint

To divide, multiply by the reciprocal.

Step 6

To divide, multiply by the reciprocal of the divisor.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image141.gif

Hint

Divide out common factors.

Step 7

Divide out common factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image142.gif

Hint

Simplify.

Step 8

Simplify.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_51_566/image143.gif

**Problem: 55 Set: Exercises  Page: 200**

Look in your textbook for this problem statement.

Hint

Define the slope.

Step 1

The slope *m* of a line passing through http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image154.gifis

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image155.gif.

Hint

Substitute.

Step 2

Substitute.



Hint

Find the LCDs of the numerator and the denominator.

Step 3

Find the LCDs of the numerator and the denominator.

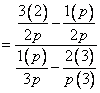
The LCD of the numerator is 2*p* and the LCD of the denominator is 3*p*.

Hint

Rewrite each fraction with the LCD.

Step 4

Rewrite each fraction with the LCD.

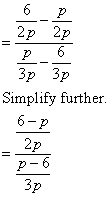


Hint

Simplify the numerator and the denominator.

Step 5

Simplify the numerator and the denominator.



Hint

Write as a division expression.

Step 6

Write as a division expression.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image159.gif

Hint

To divide, multiply by the reciprocal.

Step 7

To divide, multiply by the reciprocal of the divisor.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image160.gif

Hint

Divide out common factors.

Step 8

Divide out common factors. Factor –1 from the numerator.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image161.gif

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image162.gif

Hint

Simplify.

Step 9

Simplify.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_55_566/image163.gif

**Problem: 57 Set: Exercises  Page: 200**

Look in your textbook for this problem statement.

Hint

Define the slope.

Step 1

The slope *m* of a line passing through http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_57_566/image154.gifis

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_57_566/image155.gif.

Hint

Substitute.

Step 2

Substitute.



Hint

Find the LCDs of the numerator and the denominator.

Step 3

Find the LCDs of the numerator and the denominator.

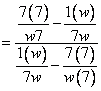
The LCD of the numerator is 7*w* and the LCD of the denominator is 7*w*.

Hint

Rewrite each fraction with the LCD.

Step 4

Rewrite each fraction with the LCD.

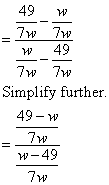


Hint

Simplify the numerator and the denominator.

Step 5

Simplify the numerator and the denominator.



Hint

Write as a division expression.

Step 6

Write as a division expression.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_57_566/image168.gif

Hint

To divide, multiply by the reciprocal.

Step 7

To divide, multiply by the reciprocal of the divisor.

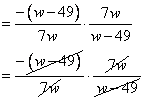
http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_57_566/image169.gif

Hint

Divide out common factors.

Step 8

Divide out common factors. Factor –1 from the numerator.



Hint

Simplify.

Step 9

Simplify.

= –1

**Problem: 63 Set: Exercises  Page: 200**

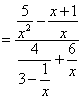
Look in your textbook for this problem statement.

Hint

Use the definition of a negative exponent.

Step 1

Use the definition of a negative exponent.

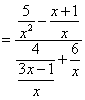


Hint

First simplify the first term in the denominator.

Step 2

First simplify the first term in the denominator. The LCD is *x*.

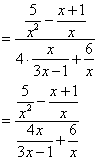


Hint

To divide, multiply by the reciprocal.

Step 3

To divide, multiply by the reciprocal of the divisor.



Hint

Find the LCDs of the numerator and the denominator.

Step 4

Find the LCDs of the numerator and the denominator.

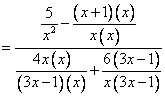
The LCD of the numerator is *x*2 and the LCD of the denominator is *x*(3*x* – 1).

Hint

Rewrite each fraction with the LCD.

Step 5

Rewrite each fraction with the LCD.

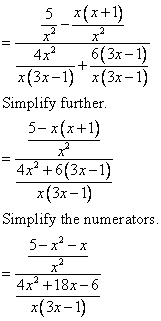


Hint

Simplify the numerator and the denominator.

Step 6

Simplify the numerator and the denominator.



Hint

Write as a division expression.

Step 7

Write as a division expression.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image193.gif

Hint

To divide, multiply by the reciprocal.

Step 8

To divide, multiply by the reciprocal of the divisor.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image194.gif

Hint

Divide out common factors.

Step 9

Divide out common factors.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image195.gif

Hint

Simplify.

Step 10

Simplify.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image196.gif

Hint

Multiply the numerators and the denominators.

Step 11

Multiply the numerators and the denominators.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image197.gif

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image198.gif

Hint

Simplify.

Step 12

Simplify.

http://hotmath.com/help/solutions/holliday210/9/2/Exercises/holliday210_9_2_Exercises_63_567/image199.gif